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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/511,844

10/19/2004

Hitoshi Ohmura

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6265

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EXAMINER

ENIN-OKUT, EDU E

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

08/19/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/511,844	Applicant(s) OHMURA ET AL.	
	Examiner Edu E. Enin-Okut	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 1-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

**SURFACE TREATED STEEL SHEET FOR BATTERY CASE,
BATTERY CASE AND BATTERY USING THE CASE**

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 20, 2009 has been entered.

Applicant has cancelled claims 1-22 and added claims 23, 24 and 25. Currently, claims 23, 24, and 25 are pending.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

3. The rejection of claim 7 under 35 U.S.C. 102(b) as being anticipated by Du Rose (US 3,355,267) is withdrawn because claim 7 was cancelled.

Claim Rejections - 35 USC § 103

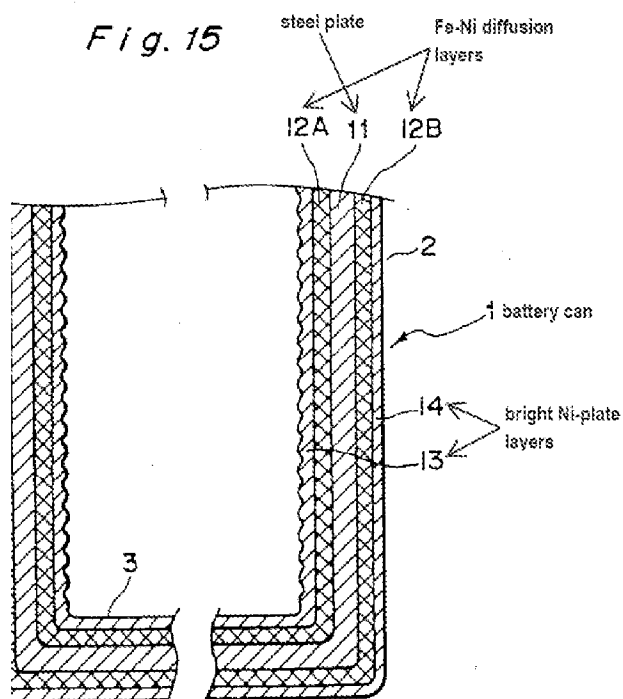
4. The rejections of claims 10, 11, 17-19 and 20 under 35 U.S.C. 103(a) as being unpatentable over Hirofumi et al. (US 5,576,113) in view of Du Rose and Ohmura et al. (US 5,993,994) are withdrawn because claims 10, 11 and 17 was cancelled and claims 18-20 were amended.

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5. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirofumi et al. (US 5,576,113) in view of Omura et al. (JP 02-129395 A) and Younan et al., "Effect of heat treatment on electroless ternary nickel-cobalt-phosphorus alloy", Journal of Applied Electrochemistry, 32: 439-446, 2002.

Regarding claims 23 and 24, Hirofumi teaches a steel plate 11, processed into a battery can 1, that serves as a substrate for Fe-Ni diffusion layers 12A, 12B disposed on both sides of the plate and bright Ni-plated layers 13, 14 disposed on the outer side of each Fe-Ni diffusion layer (Abstract; 7:29-55; Figs. 15, 24; see the labeled figure below).

Labeled figure from Hirofumi:



Hirofumi does not teach the use of a nickel-cobalt-phosphorus alloy as an uppermost layer.

Omura teaches coating both surfaces of a steel sheet with a Ni plating and/or a Ni-Fe alloy plating, and forming an upper layer of a Ni-P alloy on at least one side, to produce a sheet with high hardness and excellent in flaw resistance, workability and corrosion resistance (Abstract). Younan

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teaches that a Ni-Co-P alloy coating exhibits electrochemical and physical characteristics (e.g., hardness and corrosion resistance) superior to that of a Ni-P alloy (p. 439).

Thus, it would have been obvious to form a nickel-cobalt-phosphorous alloy as an uppermost layer on the inner side of the steel sheet used to form the battery case of Hirofumi in the manner taught by Omura and Younan because both Omura and Younan teach that use of coating layers as described above produces a workable steel sheet with a hard, corrosion resistant inner surface.

Regarding claim 25, Younan teaches that the nickel-cobalt-phosphorous layer contains from 5-30 wt. % cobalt and 1-12 wt. % phosphorous as shown in Table 2 (p. 440).

Response to Arguments

6. Applicant's arguments with respect to claims 23, 24 and 25 have been considered but applicant has amended the claims such that new grounds of rejection were necessitated.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Edu E. Enin-Okut** whose telephone number is **571-270-3075**. The examiner can normally be reached on Monday to Thursday, 7 a.m. - 3 p.m. (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on 571-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->

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direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edu E. Enin-Okut/
Examiner, Art Unit 1795

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 1795